

Application Serial No. 09/687,600
Supplemental Response to November 30, 2004 OA

MI22-1550

In the Claims

CLAIMS

Claims 1-21 (Canceled).

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22. (Currently amended) An integrated circuit package separator for separating a plurality of integrated circuit packages from one another, the integrated circuit packages being provided as integrated circuit chip components joined to a board, the separating including cutting the board, the separator comprising:

a panel;

a plurality of blocks over the panel, the plurality of blocks having curved upper surfaces and configured to form a recessed portion over an uppermost surface of the panel, the plurality of blocks being configured to support the board while leaving the integrated circuit chip components in the recessed portion extending between the block upper surfaces and the uppermost surface of the panel, the recessed portion terminating at the uppermost surface of the panel wherein an entirety of the recessed portion is elevationally above the uppermost surface;

a base disposed below the panel and having a plurality of upwardly extending pins for retaining the board;

a pair of oppositely disposed actuators configured for lifting the board from the plurality of the pins; and

a cutting mechanism configured to cut the board while the board is supported on the plurality of blocks and to thereby separate the integrated circuit packages from one another.

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23. (Currently amended) The separator of claim 22 wherein the panel is fastened to the a support.

24. (Currently amended) The separator of claim 22 wherein the components have a thickness and the blocks have a thickness about equal to that of the components.

25. (Original) The separator of claim 22 wherein at least some of the components have a common thickness and the blocks have a thickness about equal to said common thickness.

26. (Original) The separator of claim 22 wherein the blocks are in a one-to-one correspondence with the integrated circuit packages on the board.

27. (Currently amended) The separator of claim 22 comprising more than one panel over the a support, each panel having blocks associated therewith.

28. (Original) The separator of claim 27 wherein the each of the panels and blocks associated therewith is a panel and block assembly, the panel and block assemblies all being identical to one another.

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29. (Original) The separator of claim 22 wherein the blocks are fastened to the panel.

30. (Original) The separator of claim 22 wherein the blocks are one-piece with the panel.

31. (Currently amended) The separator of claim 22 ~~further comprising~~ wherein the pins extending extend upwardly from beneath the panel to beyond an upper surface of the panel, the pins configured to extend into the board and retain the board over the panel.

32. (Currently amended) The separator of claim ~~31~~ 22 wherein the pins do not extend through the panel.

33. (Currently amended) The separator of claim ~~31~~ 22 ~~further comprising an actuator beneath the panel and~~ wherein the pair of the actuators is configured to vertically displace the panel.

34. (Currently amended) The separator of claim ~~33~~ 22 wherein the pair of the actuator actuators is pneumatically powered.

Claims 35-100 (Canceled).

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101. (Previously Presented) The separator of claim 22 wherein the panel comprises aluminum.

Claim 102 (Canceled).

103. (Previously Presented) The separator of claim 22 wherein the blocks are formed as discrete pieces from the panel.

104. (Previously Presented) The separator of claim 22 wherein the blocks are formed as discrete pieces from the panel and are fastened to the panel.

105. (Previously Presented) The separator of claim 22 wherein the blocks extend above an uppermost surface of the panel at a height from about 0.035 inches to about 0.045 inches.

106. (Previously Presented) The separator of claim 22 wherein the blocks extend above an uppermost surface of the panel at a height from about 0.135 inches to about 0.145 inches.

Claims 107-108 (Canceled).

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109. (Previously Presented) The separator of claim 22 wherein the panel is molded as part of the separator.

Claims 110-113 (Canceled).

114. (Currently amended) The separator of claim 34 wherein the pair of the actuator actuators comprises a release valve configured to equilibrate a back-pressure of the pair of the actuator actuators to ambient during lifting of a support comprising the panel.

Claims 115-117 (Canceled).

118. (Previously Presented) The separator of claim 22 further comprising a plate to support the panel, the plate comprising static-reduced plastic.

Claims 119-120 (Canceled).